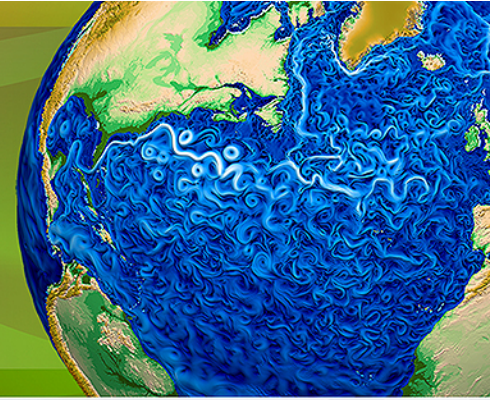




Accelerated Climate Modeling
for Energy



Project Management Strategy

Renata McCoy, Ph.D.
ACME Project Engineer
LLNL

Overview

- ACME Communication

- Confluence Wiki
eliminated the need for email lists and Google docs, provided one-stop shop for all communication, documentations and discussions, great notifications, fosters transparency, huge success
- Confluence Calendar – integrated part of the wiki
- JIRA online task tracking integrated with Confluence
- GoToMeeting - screen sharing conferencing

- ACME agile development philosophy and tight integration

- Long term to 6 months plan (AL) -> short term (Q) plans (GL) -> JIRA planning tasks (GL/TL) -> JIRA sprints (TL) -> Quarterly Reports (TL/GL)-> Rebase Plans (AL) and Repeat
(GL: Group Leaders, TL – Task Leaders, AL – ACME Leadership)

- What's the thinking behind this strategy

- Planning with agility, easy reaction to changes, confluence for documentation and report, JIRA 2 weeks focused planning and tasks definition for all, rebase to adjust to changing conditions

Project Management Agile Methodology

Agile project management adopted in ACME

- Continuous improvement
 - Iterative and incremental planning
 - Flexible realization, task teams oriented
 - Accountability for deliverables at quarterly intervals
 - Retrospective, and improvement to planning
- Rapid development through
 - Short living tasks (2 to 6 weeks)
- Requiring a deliverable
 - Every task has a deliverable
 - code, documentation, design plan doc, journal article, published data, diagnostic test webpage
- Small development task teams with designated task leader
 - ACME organization is structured around tasks
- Task tracking online software – JIRA, provides
 - Focused planning
 - Transparency
 - Automated reporting
 - Project oversight
 - Dashboards overviews

Communication - Confluence

- Project Communication – Confluence
 - Internal Wiki Website
 - Meetings
 - Reports
 - Blogs/Comments/Discussions
 - Documentation
 - Calendars
 - Notifications

Confluence - Meeting Notes Example

2014-07-24 Council Telecon

Date

24 Jul 2014

7:00 am PDT, 8 am MDT, 9 am CDT, 10 am EDT

Attendees

- David C. Bader
- Phil Jones
- Phil Rasch
- Renata McCoy
- Dean N. Williams
- Renata McCoy
- Dean N. Williams
- Mark Taylor

Access Information

- 1-866-914-3976 (int'l +1-925-424-8105) Conf ID 951469#

If there is time, Other suggested items for discussion

- (Phil Rasch) Peter Caldwell and I would like guidance about "naming conventions/Version numbers for the model"

Discussion items

Time	Item	Who	Notes
5 minutes	Project Plan and press release	Bader	Project plan is posted on "ACME Documentation" space on the "Proposals and Plan" page. https://acme-climate.atlassian.net/wiki/download/attachments/2523821/ProgramPlanv8.pdf?api=v2 A press release is being prepared. Bader will route press release to ACME Lab POC's for routing to their various public affairs offices;
10 minutes	Change Meeting Schedule	Bader	<ul style="list-style-type: none">• Proposal from Bader/Koch to change Council Telecons to Bi-weekly with one of those calls each month including task team co-leads. On alternate weeks, Exec Committee will hold 30 minute telecons with the leads/co-leads for each Task Team. We agreed to move to this format and move the Thursday Council Telecons to every other Thursday at 8 am PT, 11 am ET starting July 31.
10 minutes	Report from Task Team leads - Exec Committee Telecons	Bader	
25 Minutes	JIRA Requirements	Renata	Renata gave update on JIRA status and solicit requirements for initial JIRA implementation, see the blog JIRA Setup and Implementation Requirements . Comments should be posted on that page.
5 minutes	Deep Dive proposals	Bader	See attached proposals (click on the paper clip at the top of this page). Comments on Deep Dive proposals should be made in the comments section on this page. Council will act on proposals at next meeting.
5 minutes	Code naming and versioning conventions	Rasch	Phil R. brought up that this is a still an unresolved problem. Mark will take the lead and will develop a solution following a telecon with the Task Team Leads and Co-leads.

Action items

- ☒ implement code versioning and naming conventions Mark Taylor 15 Aug 2014

Confluence - Comments Example



Coupled Simulation Group

Pages

Blog

SPACE SHORTCUTS

Meeting notes

Model Version Documentation

PAGE TREE

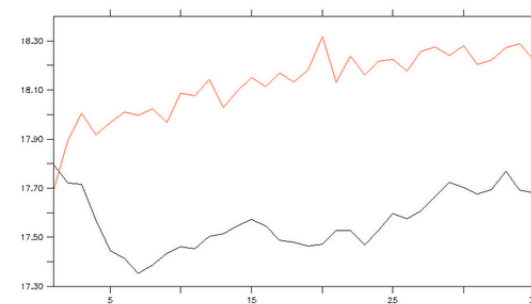
- 6 Months Road Map
- Coupled Team Members
- High-Level Task List
- Highlights
- Meeting notes
 - 2014-06-09 Meeting notes
 - 2014-06-30 Meeting notes
 - 2014-07-02 Meeting notes
 - 2014-07-07 ALCF Meeting notes
 - 2014-07-07 Meeting notes
 - 2014-07-14 Meeting notes
 - 2014-07-21 Meeting notes
 - 2014-07-28 Meeting notes
 - 2014-08-04 - Meeting Notes, Tel
 - 2014-08-11 1PM PDT Meeting n
 - 2014-08-25 Meeting notes
 - 2014-09-08 Meeting notes
 - 2014-09-15 Meeting notes
 - 2014-09-22 Meeting notes**
 - 2014-09-29 Meeting notes
 - 2014-10-20 Meeting notes
- SE, SB and PCS begin to coordina
- Task Pages
- Y1Q1 Task Reports Overview

Space tools



Mathew Maltud

here's a time series plot of the annual average global SST from the CAM4-SE run (red) and CAM5-SE (black). note for the CAM5 run, the initial drop in SST is due to starting with a negative top of atmosphere balance. unlike the CAM4 run, where the SST increases almost everywhere as time goes on, the CAM5 case has areas of + and - changes. i can also post maps of SST change if anyone wants. in fact, if it is ok with @David C. Bader i will post the short High Res report i wrote a few months ago that covers much of this.



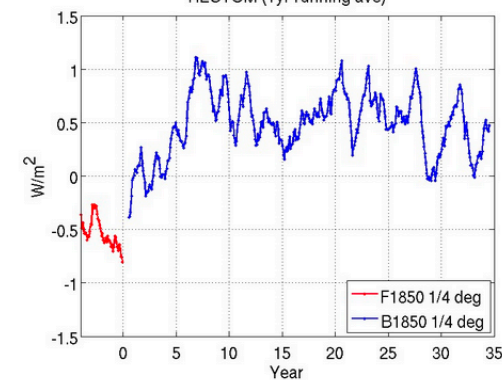
Reply • Edit • Delete • Like • Sep 23, 2014



David C. Bader

- @Mathew Maltud - I'll post the full report once I submit it to Dorothy. I am 3 months late, but she should have it before we distribute it. In Mat's report, he notes that the TOA imbalance is larger in the CAM4 run than in the CAM5 run.
- Here is the TOA imbalance to accompany the black SST line in the above figure (copied from last week's meeting page and contributed by @Mark Taylor). This looks consistent with Rich's comment below, assuming the heat is going into the ocean, but we cannot say at what levels.

RESTOM (1yr running ave)

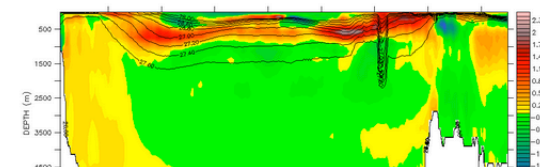


Reply • Edit • Delete • Like • Mathew Maltud likes this • Sep 23, 2014



Mathew Maltud

here's the (global) zonal average of the difference in temperature in year 35 compared to year 1 of the CAM5-SE run. contours are density for year 35 to highlight that the increase at depth occurs primarily in the subtropical mode waters for the upper ~1000m. also, the Antarctic bottom water appears to be warming. ignore the density contours just north of 40N—this is due to the inclusion the Black Sea (relatively fresh).



Confluence - Y1Q1 Report Page Example

Y1Q1TR for Satellite Simulators

Y1Q1 Task Report (TR) for Satellite Simulators

1.Team	Atmosphere
2.Task	Satellite Simulators
3.Task ID	T5
4.Reporter	Yuying Zhang
5.Report Status	DONE
6.Delivered	5 out of 7
7.Schedule	ON SCHEDULE
8.Problems	NO

Summary for this Quarter

In the first quarter we have documented how to run the COSP online diagnostics, including the description of how to use the namelist to control different features and diagnostics in COSP, and what the output fields are. We also have tested the impact of the new precipitation sub-column distribution in COSP on the simulator-derived results, and finished the first draft of the paper to address the sensitivity of the simulated radar reflectivity to this modification. In the meantime, we have identified a bug in COSP and provided a bug fix, and upgraded the offline COSP diagnostics package to version 1.4 which improves the computational efficiency by a factor of three. We have also started to coordinate with NCAR's scientists to upgrade COSP code in CESM. We have also begun a scoping exercise for the development of an aerosol lidar simulator (to be begun in Q2 or beyond).

Tasks Planned

# Task	Big Task / Epic	Task / User Story	Deliverable #	Deliverable Description	Delivered	Priority	Blocked	Problems	Notes
1	COSP Documentation	Provide documentation for ACME members to run COSP online diagnostics	1	COSP documentation	Yes	Critical	No	No	
2	New precipitation sub-column treatment in COSP	Modify the precipitation sub-column treatment in COSP	2	New COSP precipitation sub-column code	Yes	Critical	No	No	
		Evaluate the effect of the new precipitation sub-column treatment	3	First draft of a paper documenting the results	Yes	Major	No	No	

Tasks Added

# Task	Big Task / Epic	Task / User Story	Deliverable #	Deliverable Description	Delivered	Priority	Blocked	Problems	Notes
1	Offline COSP version upgrade	The offline COSP code package for CAM5 has been upgraded to version 1.4, which runs 3 times faster than the previous version.	4	COSP v1.4 for CAM5.	Yes	Major	No	No	
2	COSP bug fix	We identified a bug in COSP in CAM, and provided a bug fix. This bug results in 15% overestimation of LWP and underestimation of effective radius.	5	Bug fix	Yes	Critical	No	No	
3	Scoping exercise for aerosol lidar simulator	Identify needed algorithms for an aerosol lidar simulator (Po-Lun Ma). Begun in Q1, completed in Q2	6	description of algorithm	No	Major	No	No	



Accelerated Climate Modeling
for Energy

Confluence - Notifications

[Confluence] Software Engineering/Coupler Group > Y1
Robert Jacob (Confluence)
Sent: Thu, Jan 15, 2015 at 7:09 PM
To: renata@llnl.gov
com.atlassian.confluence.plugins.confluence-email-resourcesview-page-email-adg-f

2. Testing (@Robert Jacob) (T7b)

1. Complete configuration table

1. Get 2 cases to run on Titan with Intel
2. Get 2 cases to run on Titan with Cray
3. Get 2 cases to run on Lawerencium
4. Get 1 case to run on Wolf
5. Confirm Mac laptop runs something
6. Get 1 case to run on OIC
7. Get 2 cases to run on Sooty and Olympus.

2. Jenkins Testing (@James Foucar)

1. Redsky and melvin need to consistently pass
2. Need JenkinsSON+JenkinsSRN results in publicly viewable mirror
3. Resolve "opening up" of our Jenkins system to outside-of-Sandia developers
4. Need better dashboard
5. Need to determine when to test master vs. next
6. Separate and limit testing that must be done on clusters
7. Add more clusters (outside of Sandia) to Jenkins slave pool

Confirm/improve scientific content of system tests

3. Manual Testing

1. Port ACME integration and developer suites to Cascade-nag
2. Port ACME integration and developer suites to Edison
3. Port ACME developer suite to Blues
4. Port ACME developer suite to Lawerencium
5. Port ACME developer suite to Mustang and Wolf
6. Port ACME developer suite to Cascade-intel
7. Port ACME developer suite to Olympus, Sooty

4. Extend system tests

1. add land model tests
2. add atmosphere model tests

Complete configuration table

1. add LCF specific test suites?

[Confluence] Software Engineering/Coupler Group > Outputting Namelist variable values

Mark Taylor (Confluence)

Sent: Fri, Jan 16, 2015 at 3:47 PM

To: renata@llnl.gov

Show all 2 Preview All

Mark Taylor commented on a page

Re: Outputting Namelist variable values

In CAM, it would require a bit of coding to write them out at the end of the run: since the dozens of namelists are all private module data. We could make an end_of_run() function in every module that could be called at the end of the run, or we could make all the namelists public/global variables, so that they could be accessed from an I/O routine that was called at the end of the run.

If you write them out as soon as the code has finished messing with them, then you still have the problem that the next subroutine called could change a namelist parameter. It may not even know that the parameter it was changing happened to be from a namelist.

Reply Like

In reply to

Philip Cameron-Smith

I agree nothing is perfect.

I don't see any reason with #1 or #2 why the namelists would need to be written out in a single routine - I presume you could just add a write_namelist statement each time it seems that the code has finished messing with one of the namelists.

I also don't see any reason why the output has to be done at the start of the run - I presume it could be done at the end of the run.

Stop watching space Manage notifications



Robert Jacob

Isn't the science output linked to the provenance data in some way? So you could retrieve them?

In any case, yes you could do both and #1 would be the easiest to implement quickly.

Reply Edit Delete Like about 6 hours ago



Philip Cameron-Smith

For Suggestion #2, would the namelist information be stored in all the output streams (h0, h1, ...) ?

Reply Edit Delete Like about 6 hours ago



Doug Jacobsen

It would depend largely on how to model implemented it, but that is how we do it in MPAS. No matter what you do, every output stream gets all namelist parameters.

Reply Edit Delete Like about 6 hours ago



Robert Jacob

@Dali Wang or @Forrest Hoffman, what does the land model do for recording namelist variable values?

Reply Edit Delete Like about 6 hours ago



Doug Jacobsen

Suggestion #3 doesn't necessarily give us the information we need for provenance. For example, if a user_nl_cam file is used to modify the cam namelist options, that's not captured through the namelist_defaults and namelist_definition files.

Reply Edit Delete Like 18 minutes ago



Mark Taylor

For suggestion #3 - the provenance is the namelists, not the xml files. So user_nl_cam, namelist_defaults.xml and namelist_definition.xml are all parsed to produce "atm_in", which then has the full provenance of the simulation.

#3 and #1 are very similar: Both only cover variables that appear in namelists. Both require coding discipline (either ensuring all Fortran namelists have associated write statements, or ensuring all namelists variables appear in namelist_defaults.xml). For #3, I see the drawback is that the namelists are not sorted nor do they have a common format. But #3 is 99% done and should be easier to implement than #1.

Reply Edit Delete Like 43 minutes ago

New edit



Last modified by Mark Taylor

Reload

Today ◀ ▶ October 2014

Month Week List Timeline

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30	1	2	3	4
	<div><div>📅 Doug Jacobsen</div><div>7a Charles & Dean: ESGF Compute Working Team</div><div>📅 Jeffrey Johnson</div><div>8a Dean N. Williams: ESGF - International Climate Network Working Group</div><div>8a Software Engineering Lead, Co-Lead one-on-one with Exec Committee</div><div>📅 Peter Caldwell: NCAR + SciDAC all-hands</div><div>9a ACME-ONLY Land Model Benchmarking Conference Call</div><div>1p Coupled</div></div>	<div><div>📅 Forrest Hoffman: Vacation</div><div>📅 Bill Collins: Multiscale STM & BERAC -- unav...</div><div>📅 Bill Collins: Travel to SciDAC, BERAC, RFMIP...</div></div>	<div><div>9a Ocean/Ice Antarctica</div><div>10a Land Lead, Co-Lead one-on-one with Exec Committee</div><div>10:30a BGC Experiment</div><div>11:30a Workflow Lead, Co-Lead one-on-one with Exec Committee</div><div>12:30p Atmosphere Lead, Co-Lead one-on-one with Exec Committee</div><div>1:30p Performance Lead, Co-Lead one-on-one with Exec Committee</div></div>	<div><div>📅 Peter Caldwell: @ tuning workshop in Germany</div><div>9a Coupled Leaders one-on-one with Exec Committee</div><div>11a Atm Team Telecon</div><div>12:30p Ocean/Ice Leaders one-on-one with Exec Committee</div></div>	<div><div>8a SE/Cpl telecon</div><div>9a Dean & Kate: ACME Workflow Task Lead Catchup</div></div>	
5	6	7	8	9	10	11
<div><div>📅 Peter Caldwell: @ tuning workshop in Germany</div></div>	<div><div>📅 Forrest Hoffman: Vacation</div><div>10a Charles, Dean & Renata: UV-CDAT Internatinoal team meeting (T4)</div><div>11a Dean & Renata: ACME Workflow and Data Telco</div><div>1p Coupled</div></div>	<div><div>8a Performance</div><div>9a Exec Committee</div><div>9a JIRA Workflow Training with Appfire</div><div>11a Land</div><div>12p Charles, Dean & Renata: ACME Diagnostics Work Team (Sub-task T4.1)</div></div>	<div><div>9a Ocean/Ice Antarctica</div><div>10:30a BGC Experiment</div></div>	<div><div>8a Council Only Telecon</div><div>8a ESGF Publisher Working Team (ACME Sub-task T4.5b)</div><div>11a Atm Team Telecon</div></div>	<div><div>8a SE/Cpl telecon</div></div>	
12	13	14	15	16	17	18
	<div><div>📅 Peter Thomson: Vacation</div><div>📅 Forrest Hoffman: Vacation</div><div>7a Charles & Dean: ESGF Compute Working Team</div><div>8a Dean N. Williams: ESGF - International Climate Network Working Group</div><div>8a Software Engineering Lead, Co-Lead one-on-one with Exec Committee</div><div>9a ACME-ONLY Land Model Benchmarking Conference Call</div><div>12p JIRA final decisions</div><div>1p Coupled</div></div>	<div><div>8a Performance</div><div>9a Exec Committee</div><div>11a Land</div><div>12p Charles, Dean & Renata: ACME Diagnostics Work Team (Sub-task T4.1)</div></div>	<div><div>9a Ocean/Ice Antarctica</div><div>10a Land Lead, Co-Lead one-on-one with Exec Committee</div><div>10:30a BGC Experiment</div><div>11:30a Workflow Co-Leads one-on-one with Exec Committee</div><div>12:30p Atmosphere Lead, Co-Lead one-on-one with Exec Committee</div><div>1:30p Performance Lead, Co-Lead one-on-one with Exec Committee</div></div>	<div><div>9a Coupled Leaders one-on-one with Exec Committee</div><div>10a Workflow Leaders one-on-one with Exec Committee</div><div>11a Atm Team Telecon</div><div>12:30p Atmosphere Leaders one-on-one with Exec Committee</div></div>	<div><div>8a SE/Cpl telecon</div><div>9a Dean & Kate: ACME Workflow Task Lead Catchup</div><div>9a Performance Leaders one-on-one with Exec Committee</div><div>2p Atmosphere Leaders one-on-one with Exec Committee</div></div>	
19	20	21	22	23	24	25
	<div><div>9a ACME-ONLY Land Model Benchmarking Conference Call</div><div>10a Charles, Dean & Renata: UV-CDAT Internatinoal team meeting (T4)</div><div>11a Dean & Renata: ACME Workflow and Data Telco</div><div>1p Coupled</div></div>	<div><div>📅 Bill Collins: GCAM and ACME quarterly update...</div><div>8a Performance</div><div>9a Exec Committee</div></div>	<div><div>8a BER Briefing on ACME status</div><div>9a Ocean/Ice Antarctica</div><div>10:30a BGC Experiment</div></div>	<div><div>8a Council telecon - Council only</div><div>8a ESGF Publisher Working Team (ACME Sub-task T4.5b)</div><div>11a Atm Team Telecon</div></div>	<div><div>8a SE/Cpl telecon</div></div>	

Workflow Task Team ...

Events

Software Engineering... ...

Events

Performance Task Te... ...

Events

Ocean/Ice Task Team ...

Events

Meeting and Confere... ...

Events

Land Task Team ...

Events

Land Benchmarking ...

Events

Executive Committee ...

Events

Travel

Coupled Simulation T... ...

Events

Council ...

Events

Atmosphere Task Team ...

Events

ACME Vacation ...

Travel

Leave

JIRA - Task Tracking

JIRA

Dashboards

Projects

Issues

Agile

Create

Search

Ocean-Ice Scrum

Plan

Work

Report

Board

SPRINT: OcnIce Sprint Y1Q2-1

QUICK FILTERS: Only My Issues Recently Updated

EPICS

All issues

MPAS-O CORE-II at Eddy Closure resolution

MPAS-O with enhanced Southern Ocean mesh and CORE-II forcing.

Variational operators on a sphere

CICE column physics

Vertical BGC

Heat balance model

2-way ice-sheet coupling and SMB in ACME

ice shelf boundary layer physics

ice sheet / ocean coupling: standard test cases

ISOMIP+ test case

OcnIce Sprint Y1Q2-1

3 of 85 issues visible

Clear all filters

03/Dec/14 5:27 AM • 17/Dec/14 5:27 AM

Linked pages

OG-9

Define/generate Southern Ocean (SO) mesh

MPAS-O with enhanced Southern Ocean mesh and...

OG-101

Produce initial conditions for ESO configuration with C

MPAS-O with enhanced Southern Ocean mesh and...

OG-102

Provide merged ETOPO1-Bedmap2 dataset

MPAS-O with enhanced Southern Ocean mesh and...

Backlog

2 of 44 issues visible

Clear all filters

Create Sprint

OG-103

Verify Stage 1 metrics are produced

MPAS-O with enhanced Southern Ocean mesh and...

OG-104

initial evaluation of MPAS-O with ESO mesh

MPAS-O with enhanced Southern Ocean mesh and...

+ Create issue

Ocean/Ice Group / OG-9

Define/generate Southern Ocean (SO) mesh

Details

Status: CLOSED

Component/s: MPAS-Ocean ocean-only simulations

Labels: CORE-II, MPAS-Ocean

Affects Version/s: ACME-v1

Fix Version/s: None

Epic: MPAS-O with enhanced Southern Ocean mesh and CORE-II forcing.

People

Reporter: Todd Ringler

Assignee: Doug Jacobsen

Dates

Created: 05/Dec/14 11:10 AM

Updated: 23/Dec/14 11:21 AM

Issue Links

Add Link

There are no linked issues

Plan

Work

Report

Board

OG-92

Gather/document datasets for generation of bathymetry, land-ice cover and initial conditions

OG-95

Verify coupler fields on both ocean and coupler sides

OG-2

Define/generation Eddy Closure mesh

OG-10

Define C-MPASO-NY and C-MPASO-IAF compset

OG-93

Update ACME coupler to work with MPAS-O v3.0 release

OG-94

Create machine files for Mustang/Wolf, add to ACME repo

OG-9

Define/generate Southern Ocean (SO) mesh

OG-102

Provide merged ETOPO1-Bedmap2 dataset

OG-5

Implement MPAS-CICE variational operators on a sphere

JIRA - Task Tracking

Filter for Ocean-Ice Scrum [Save as](#) [Details](#) ☆

project = "Ocean/Ice Group" ORDER BY Rank ASC

1-50 of 158

T	Key	Summary	Assignee	P	Status	Updated	Due	Components	Description	Flagged	Labels	Links	S
	OG-62	au	Matt Hoffman	↑	OPEN	18/Dec/14	31/Dec/14	MPAS Antarctic Land Ice Model			MPAS-Landice testing		
f	OG-1	The initial of spin-up of MPAS-O at Eddy Closure (EC) resolution with CORE-II forcing.	Mark Petersen	↑	OPEN	10/Dec/14	31/Dec/14	MPAS-Ocean ocean-only simulations	This work will include the first spin-up of MPAS-O using CORE-II forcing. This is primarily a "shake down" exercise to insure that coupling of MPAS-O to the rest of the ACME system is correct. Biases will be diagnosed and integrations will be repeated in out quarters.		CORE-II MPAS-Ocean		
	OG-2	Define/generation Eddy Closure mesh	Doug Jacobsen	↑	CLOSED	10/Dec/14	03/Dec/14	MPAS-Ocean ocean-only simulations	Generate the files necessary to run MPAS-O at "low resolution" with CORE-II forcing.		MPAS-Ocean		
f	OG-3	The initial of spin-up of MPAS-O using enhanced Southern Ocean mesh and CORE-II forcing.	Todd Ringle	↑	OPEN	10/Dec/14	31/Dec/14	MPAS-Ocean ocean-only simulations	This work includes an initial configuration of MPAS-O using a mesh with enhanced resolution in the Southern Ocean.		CORE-II MPAS-Ocean		
f	OG-4	Variational operators	Adrian Turner	↑	CLOSED	05/Jan/15	24/Dec/14	MPAS-CICE			MPAS-CICE		
f	OG-7	Refactor CICE column physics	Elizabeth Hunke	↑	OPEN	04/Dec/14	24/Dec/14	MPAS-CICE			MPAS-CICE		
	OG-5	Implement MPAS-CICE variational operators on a sphere	Adrian Turner	↑	CLOSED	10/Dec/14	10/Dec/14	MPAS-CICE			MPAS-CICE		
	OG-9	Define/generate Southern Ocean (SO) mesh	Doug Jacobsen	↑	CLOSED	23/Dec/14	16/Dec/14	MPAS-Ocean ocean-only simulations	Develop mesh and associated input files to run MPAS-O with enhanced resolution in the Southern Ocean.		CORE-II MPAS-Ocean		
	OG-8	Refactor CICE column physics	Elizabeth Hunke	↑	CLOSED	22/Dec/14	24/Dec/14	MPAS-CICE	Steps: Remove horizontal loops from column package Split code and/or pass variables through subroutine interfaces Rewrite/isolate variables internal to column package Create new module with column physics interfaces		MPAS-CICE		
	OG-6	Compare MPAS-CICE variational operator on sphere to analytical solution	Adrian Turner	↑	CLOSED	18/Dec/14	24/Dec/14	MPAS-CICE			MPAS-CICE		
	OG-79	Test global vertical BGC offline	Scott Elliott	↑	IN PROGRESS	16/Jan/15	30/Jan/15	Sea ice biogeochemistry			biogeochemistry		
	OG-12	Test vertical BGC offline	Nicole Jeffery	↑	IN PROGRESS	18/Dec/14	24/Dec/14	Sea ice biogeochemistry	This task will eventually end with a manuscript submission, but not by the end of Q2. For a Q2 success measure, I'll complete the simulations of the Weddell Sea and Barrow sites and compare with field data.		biogeochemistry		
	OG-10	Define C-MPASO-NY and C-MPASO-IAF compset	Doug Jacobsen	↑	CLOSED	24/Dec/14	18/Dec/14	MPAS-Ocean ocean-only simulations	Define standard for running ocean-only MPAS-O simulations within ACME.		CORE-II MPAS-Ocean		
	OG-14	design document	William Lipscomb	↑	OPEN	10/Dec/14	31/Dec/14	MPAS Antarctic Land Ice Model	Write design document for heat balance model		MPAS-Landice		
	OG-15	debug CISM enthalpy model	William Lipscomb	↑	CLOSED	06/Jan/15	31/Dec/14	MPAS Antarctic Land Ice Model	debug new enthalpy modules in CISM		MPAS-Landice		
	OG-16	column physics module for both enthalpy and temperature balance schemes	William Lipscomb	↑	OPEN	10/Dec/14	31/Dec/14	MPAS Antarctic Land Ice Model	implement column model (both temperature and enthalpy approaches) with MPAS-friendly data structures		MPAS-Landice		
	OG-17	test column physics model for heat balance	William Lipscomb	↑	OPEN	10/Dec/14	31/Dec/14	MPAS Antarctic Land Ice Model	test column physics modules in CISM		MPAS-Landice		
	OG-18	translate column physics to MPAS data structures	William Lipscomb	↑	OPEN	10/Dec/14	31/Dec/14	MPAS Antarctic Land Ice Model	translate column physics model to MPAS land ice code / data structures		MPAS-Landice		
	OG-19	test column physics model for heat balance (in MPAS)	William Lipscomb	↑	OPEN	18/Dec/14	31/Dec/14	MPAS Antarctic Land Ice Model	test column physics heat balance model in MPAS		MPAS-Landice	OG-59 , OG-67	

Open the home page

GoToMeeting - conferencing tool

The screenshot displays a GoToMeeting session. The main window shows a JIRA Kanban board for the 'SE/CPL Kanban' project. The board is organized into four columns: '14 To Do', '13 In Progress', '23 Done', and 'Release...'. Each column contains several issues, each with a status icon (e.g., 'Up', 'Down', 'Complete') and a description. For example, in the 'To Do' column, there are issues like 'SEG-29: Port ACME developer suite to Blues' and 'SEG-31: Get 2 cases to run on Lawrencium'. The 'In Progress' column has issues like 'SEG-14: Explore conversion to CMake build' and 'SEG-22: Assemble and make a release of'. The 'Done' column has issues like 'SEG-1: Repository' and 'SEG-2: New user support and documentation'. The 'Release...' column has issues like 'SEG-3: Repository code change workflow' and 'SEG-4: Pull Requests: refine and'. To the right of the Kanban board, there is a sidebar with a search bar and a list of filters. The bottom right corner of the main window shows the 'Details' section for the selected issue 'SEG-1', which is a 'Repository' issue. The status is 'CLOSED'. The component is 'Repository'. The labels are 'None'. The reporting quarter is 'Y1Q2'. The affects version is 'None'. The fix version is 'None'. The epic is 'None'. The reporter is 'Renata McCoy'. On the right side of the screen, there is a 'GoToMeeting Control Panel' window. It shows the 'Screen Sharing' section with a 'Stopped: no one sees your screen' message. Below this, there are buttons for 'Show Main Screen', 'Stop Showing Screen', 'Give Keyboard & Mouse', and 'Change Presenter'. There is also a 'Record' button and a 'Settings' link. The 'Attendees' section shows '1 out of 26' attendees, with a list of names including 'Names - Alphabetically' and 'Renata McCoy - Organizer, Presenter, Me'. The 'Audio' section shows 'Use: Telephone' selected, with a dial number '+1 (669) 224-3400', an access code '995-403-597', and an audio PIN '2'. The 'Webcam' section shows a 'Share My Webcam' button and a 'Webcams' dropdown. The 'Chat' section shows a text input field and a 'Send' button. At the bottom, there is a 'Meeting ID# 995-403-597' and the 'GoToMeeting' logo.

Upcoming Network Maintenance for Atlassian Cloud. (more info)

JIRA JIRA Dashboards Projects Issues Agile Create Search

SE/CPL Kanban Plan Work Report Board

QUICK FILTERS: Configurability and Modularity Parallel I/O Productivity Repository Testing Only My Issues

Recently Updated ... Show fewer

14 To Do 13 In Progress 23 Done Release...

SEG-29 Port ACME developer suite to Blues

SEG-31 Get 2 cases to run on Lawrencium

SEG-32 Confirm Mac laptop runs something

SEG-33 Port ACME developer suite to

SEG-34 Port ACME

SEG-14 Explore conversion to CMake build

SEG-22 Assemble and make a release of

SEG-17 Convert performance sensitive

SEG-18 Add tests to PIO, for correctness

SEG-21 Investigate

SEG-1 Repository

SEG-2 New user support and documentation

SEG-3 Repository code change workflow:

SEG-4 Pull Requests: refine and

SEG-5 Integrators:

Software Engineering/Coupler Group /

SEG-1

Repository

Details

Status: CLOSED

Component/s: Repository

Labels: None

Reporting Quarter: Y1Q2

Affects Version/s: None

Fix Version/s: None

Epic: None

People

Reporter: Renata McCoy

GoToMeeting Control Panel

Screen Sharing

Stopped: no one sees your screen

Show Main Screen Stop Showing Screen Give Keyboard & Mouse Change Presenter

Record Settings

Attendees: 1 out of 26

Names - Alphabetically

Renata McCoy - Organizer, Presenter, Me

All All Invite Others

Audio

Use: Telephone Mic & Speakers

Dial: +1 (669) 224-3400

Access Code: 995-403-597

Audio PIN: 2

If you're already on the call, press #2# now. Problem dialing in?

Talking:

Webcam

Share My Webcam Webcams

Chat

Type message here.

To: All - Entire Audience Send

Meeting ID# 995-403-597

GoToMeeting

ACME agile philosophy

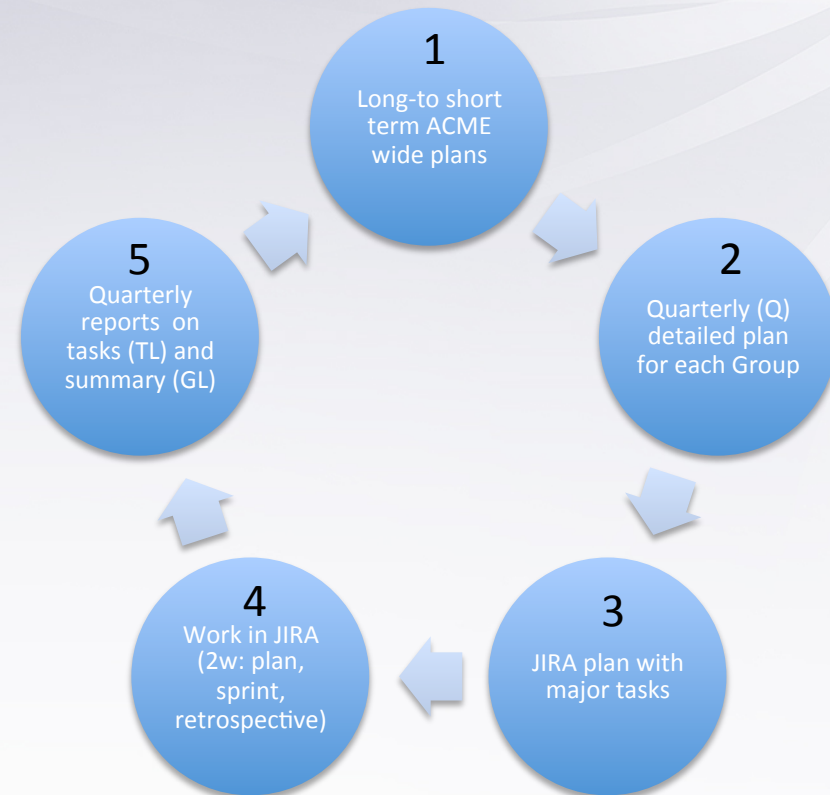
1. Long to short term (10 years, 3 years, 1 year, 6 months) plan (AL)
2. Short term (Q) plans (GL)
3. JIRA plan with major tasks (GL/TL)
4. JIRA sprint/retrospective (TL)
5. Quarterly Reports: Tasks (TL) and Summary by Group Leaders (GL)

Rebase and Repeat

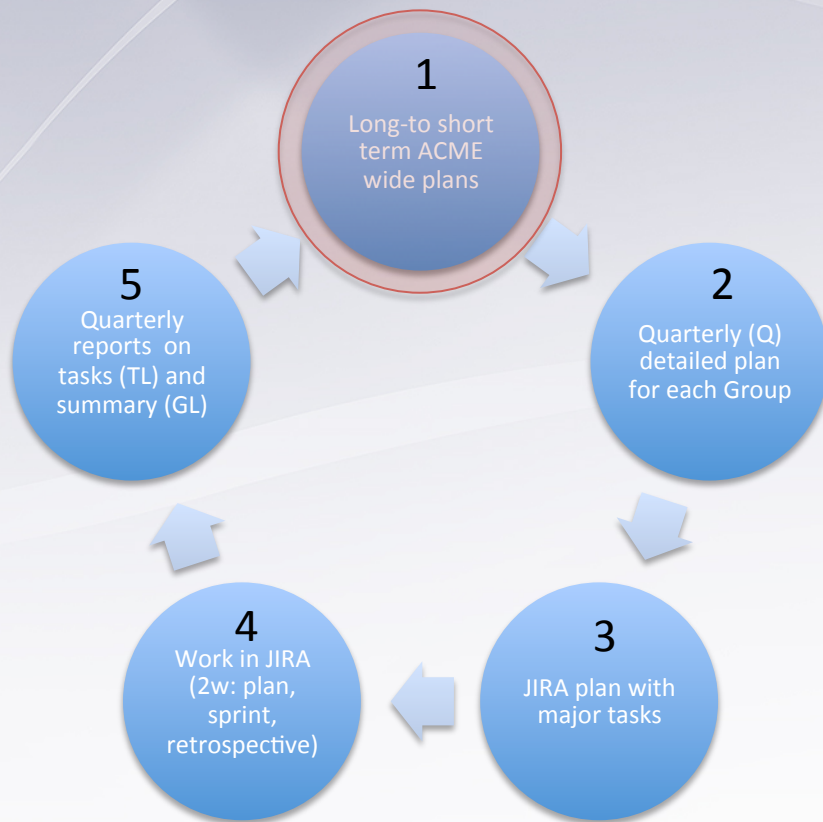
GL: Group Leaders

TL – Task Leaders

AL – ACME Leadership



1. Long-to-Short Term ACME Plans



10 Year Roadmap
Created by Renata McCoy, last modified on Oct 14, 2014

The 10-Year Goal

Over the next 10 years, the ACME project will assert and maintain an international scientific leadership position in the development of Earth system and climate models at the leading edge of scientific knowledge and computational capabilities. With its collaborators, it will demonstrate its leadership by using these models to achieve the goal of designing, executing, and analyzing climate and Earth system simulations that address the most critical scientific questions for the nation and DOE.

The ACME 10-year Roadmap

ACME will achieve this goal through four intersecting project elements:

1. a series of **prediction and simulation experiments** addressing scientific questions and mission needs;
2. a well documented and tested, continuously advancing, evolving, and improving **system of model codes that comprise the ACME Earth system model**;
3. the ability to use effectively **leading (and "bleeding") edge computational facilities** soon after their deployment at DOE national laboratories; and
4. an **infrastructure** to support code development, hypothesis testing, simulation execution, and analysis of results.

Relationships Among Simulation, Development and Architecture Roadmaps

Figure 1 depicts the ACME Project Roadmap, showing the relationships among the first three major project elements: the simulations, the modeling system to perform those simulations, and the machines on which they will be executed. Unlike the other three elements that have distinct but overlapping phases, the fourth element, the infrastructure, will evolve continuously based on the requirements imposed by project needs.

2. Quarterly Detailed Group Plan



Confluence Spaces People Calendars Create

Performance Group

Pages

Blog

SPACE SHORTCUTS

Meeting notes

Decision log

PAGE TREE

- 6 Months Road Map
- C1 Task Team
- C2 Task Team
- C4 Task Team
- C5 Task Team
- C6 Task Team
- O7 Task Team
- Decision log
- Highlights
- Meeting notes
- List of Profiling Tools
- Performance Methodology for ACME
- Performance Team Members
- Prototype Science Simulations
- Spoke Meeting Notes
- Y1H1 Performance Tasks
 - Y1Q1 Task Reports Overview
 - Y1Q2 Performance Task Plan
- Y1Q2 Performance Tasks
- Y1H2 Performance Tasks
- OpenACC notes
- Reviews and Summaries

Pages / Performance Group / Y1H1 Performance Tasks

33 JIRA links

Y1Q2 Performance Task Plan

Created by Renata McCoy, last modified on Nov 12, 2014

Epics, Milestones, Tasks and Stories

- Performance Data Capture (Patrick Worley) (ID #C1.1)**
Performance Data Capture and Benchmarking [PG-1 OPEN](#)
 - Support for performance data capturing and storage, current and new development [PG-2 OPEN](#)
 - Performance benchmarking for watercycle experiment [PG-3 OPEN](#)
 - Performance benchmarking for BGC experiment [PG-4 OPEN](#)
 - Performance benchmarking for proto-cyosphere experiment [PG-5 OPEN](#)
- Performance Tracking and UI (Ben Mayer ?) (ID #C.1.1.3)**
Automatic performance tracking, UI and database [PG-6 OPEN](#)
 - Support for multiple sites [PG-7 OPEN](#)
 - Database design and setup [PG-8 OPEN](#)
 - Data ingest [PG-9 OPEN](#)
 - User Interface [PG-10 OPEN](#)
 - Plotting function [PG-11 OPEN](#)
- Performance Tracking Infrastructure within Workflow (Ben Mayer) (ID #C1.1.4)**
Performance Tracking Infrastructure within Workflow [PG-12 OPEN](#)
 - Configuration for User Interface, package generation [PG-13 OPEN](#)
 - Hooks for post-processing [PG-14 OPEN](#)
 - Automated data transfer [PG-15 OPEN](#)
 - Data collection and reporting [PG-16 OPEN](#)
 - Data storage for workflow [PG-17 OPEN](#)
- Internode Performance (Hans Johansen) (ID #C2)**
Internode Performance and Optimization [PG-18 OPEN](#)
 - Communication and Load Balancing Instrumentation and Optimization [PG-19 REOPENED](#)
 - Identify Optimized Coupled System Load Balancing [PG-20 OPEN](#)
 - I/O Performance [PG-21 OPEN](#)
- On-Node Performance (Matthew Norman) (ID #C5)**
On-Node Performance Evaluation and Optimization [PG-22 OPEN](#)
 - Evaluation of current GPU code performance [PG-23 OPEN](#)
 - Port a new monotone limiter to GPUs using CUDA FORTRAN and evaluate performance. [PG-24 OPEN](#)
 - Profile ACME_v0 in representative production-mode runs on Edison [PG-25 OPEN](#)
 - Evaluate compilers and compiler flags on Titan and Mira [PG-26 OPEN](#)
 - Optimize GPUs performance on Titan [PG-27 OPEN](#)
 - Port tracer transport routines to GPUs using OpenACC [PG-28 OPEN](#)
- Performance Improvements for MPAS Ocean and Ice (Doug Jacobsen) (ID #O7)**
Performance Improvements for MPAS Ocean and Ice [PG-29 OPEN](#)
 - Implement and automate performance metrics [PG-30 OPEN](#)
 - Hybrid MPI/OpenMP in MPAS-O [PG-31 OPEN](#)
 - MPI Optimization [PG-32 OPEN](#)
 - On-node optimization [PG-33 OPEN](#)

3. JIRA Plan for Major Tasks



Confluence Performance Group / Y1H1 Performance Tasks

33 JIRA links

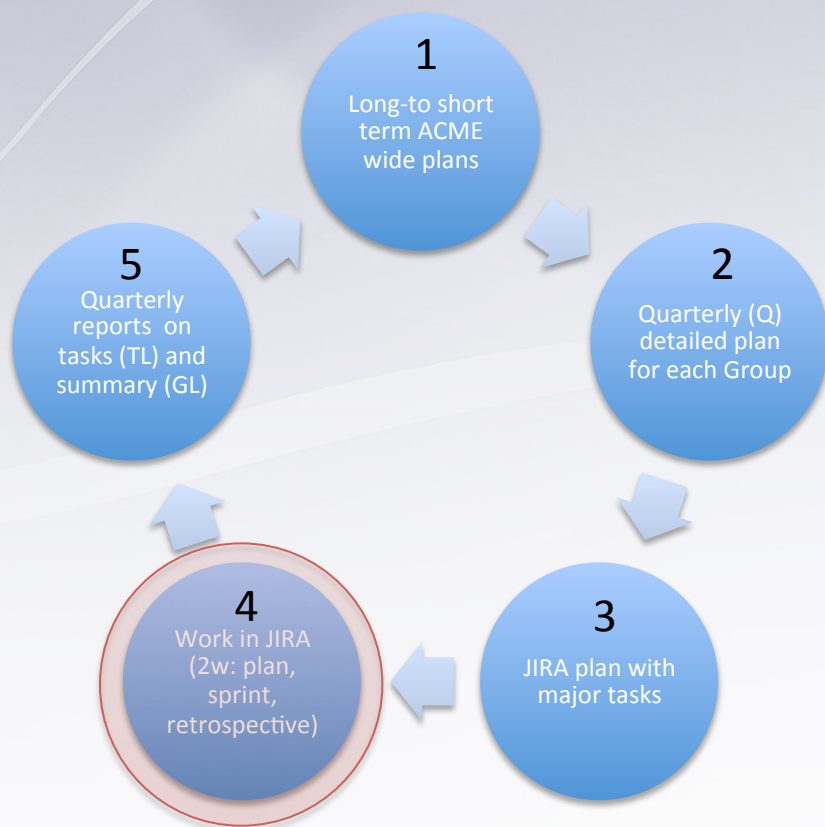
Y1Q2 Performance Task Plan

Created by Renata McCoy, last modified on Nov 12, 2014

Epics, Milestones, Tasks and Stories

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 - Implement and automate performance metrics PG-30 OPEN
 - Hybrid MPI/OpenMP in MPAS-O PG-31 OPEN
 - MPI Optimization PG-32 OPEN
 - On-node optimization PG-33 OPEN

5. JIRA Tasks – 2 Week Sprints



Performance Scrum

QUICK FILTERS: Only My Issues Recently Updated

Sprint 1 2 issues
11/Nov/14 2:34 PM • 25/Nov/14 2:34 PM

Sprint 2 1 issue
Start Sprint

Backlog 24 issues
Create Sprint

Details

Status: OPEN

Component/s: Data Capture

Labels: None

Affects Version/s: None

Fix Version/s: None

Epic: Performance Data Capture

Reporter: Renata McCoy

Assignee: Unassigned

Created: 07/Nov/14 2:25 PM

Updated: 20/Nov/14 8:18 AM

Issue Links

mentioned in

Y1Q2 Performance Task Plan

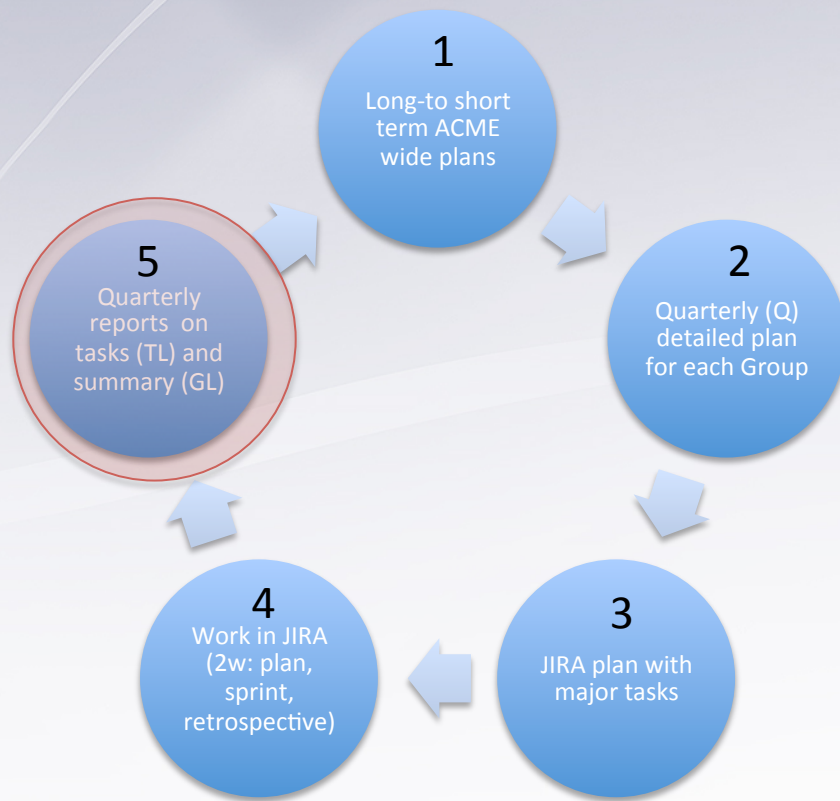
Description

There is no description content

Comments

There are no comments

6. Quarterly Reports



Performance Group

- Pages
- Blog
- SPACE SHORTCUTS
- Meeting notes
- Decision log
- PAGE TREE
- > 6 Months Road Map
- > C1 Task Team
- > C2 Task Team
- > C4 Task Team
- > C5 Task Team
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- > Y1Q2 Performance Task Plan
- > Y1Q2 Performance Tasks
- > Y1Q2 - Internode Performance
- > Y1Q2 - Performance Data Capture
- > Y1H2 Performance Tasks
- > OpenACC notes
- > Reviews and Summaries

Reporting Phase

Tasks Added

#	Task / User Story	Deliverable Description	Delivered	Priority	Blocked	Problems	Update date	Notes
4								
5								

Summary for this Quarter

Key Result

Links to Deliverables

Link to Highlight

JIRA Tasks

Key	Summary	T	Created	Updated	Due	Assignee	Reporter	P	Status	Resolution
PG-1	Performance Data Capture and Benchmarking	f	Nov 07, 2014	Nov 12, 2014	Dec 31, 2014	Unassigned	Renata McCoy	↑	OPEN	Unresolved
PG-36	Hans types too much	h	Nov 11, 2014	Nov 11, 2014	Nov 12, 2014	Hans Johansen	Hans Johansen	↑	IN PROGRESS	Unresolved
PG-2	Support for performance data capturing and storage, current and new development	g	Nov 07, 2014	Nov 12, 2014	Dec 31, 2014	Hans Johansen	Renata McCoy	↑	OPEN	Unresolved
PG-34	profiling made by Pat	h	Nov 11, 2014	Nov 20, 2014	Nov 13, 2014	Renata McCoy	Renata McCoy	↑	OPEN	Unresolved
PG-35	subtask 2	h	Nov 11, 2014	Nov 11, 2014	Nov 13, 2014	Patrick Worley	Renata McCoy	↑	OPEN	Unresolved
PG-3	Performance benchmarking for watercycle experiment	g	Nov 07, 2014	Nov 20, 2014	Dec 31, 2014	Unassigned	Renata McCoy	↑	OPEN	Unresolved
PG-5	Performance benchmarking for proto-cyosphere experiment	g	Nov 07, 2014	Nov 12, 2014	Dec 31, 2014	Unassigned	Renata McCoy	↑	OPEN	Unresolved
PG-4	Performance benchmarking for BGC experiment	g	Nov 07, 2014	Nov 12, 2014	Dec 31, 2014	Unassigned	Renata McCoy	↑	OPEN	Unresolved

8 issues Refresh

Ongoing Notes:

Meeting Notes Links

Notes on Progress and Key Decisions

Like Be the first to like this y1s2e

Why this structure?

1. Incorporates both planning and agility
2. Enables easy reaction to changes, through rebasing, quarterly planning, sprint planning mode
3. JIRA forces detailed planning for the 2 week long sprints and forces tasks definition for every member of the team
4. By requiring deliverables with each major task, we make sure every task produces a piece of a product
5. The retrospective and rebasing makes sure our plans evolve with changing environment, changing machines, evolution of our knowledge and any other changes.

Summary

- ACME Communication
 - Confluence Wiki
 - Calendar
 - JIRA
 - GoToMeeting
- ACME agile development cycle
 - Long term to 6 months plan (AL) -> short term (Q) plans (GL) -> JIRA plan for tasks (GL/TL) -> JIRA sprints (TL) -> Quarterly Reports (TL) and (GL) -> Repeat from rebased and adjusted plans (AL)
(GL: Group Leaders, TL – Task Leaders, AL – ACME Leadership)
- Philosophy behind the strategy
 - Agile planning from integrated Road Maps for the ACME mission to the detailed Quarterly planning for each Group, rebased on regular basis, JIRA task tracking with 2 weeks focused planning, Quarterly Reports with deliverables promotes accountability, retrospective and rebase to adjust to changing conditions

Thank You !